

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An interference cancellation method for a mobile station in a radio cell of a CDMA cellular system, ~~including the steps of~~comprising:
maintaining a list of intracell interferers in the CDMA cellular system to the mobile station;
detecting intercell interferers to the mobile station based on handover-related information determined by the mobile station;
adding ~~each one or more~~ detected intercell ~~interferer~~interferers ~~that fulfils a predetermined selection criterion~~ to said list; and
performing, based on information ~~about~~associated with the interferers in said list, interference cancellation for all interferers in said list.

2. Canceled.

3. (Currently Amended) The method of claim 1, ~~including the steps of~~comprising:
measuring received interfering signal power from intercell interferers using the same frequency band as the mobile station; and
adding to said list only intercell interferers having a measured received interfering signal power that exceeds a predetermined power level.

4. (Currently Amended) The method of claim 1, ~~including the steps of~~comprising:
determining the cross-correlation between a desired signal and signals from intercell interferers; and

adding to said list only intercell interferers having a determined cross-correlation that exceeds a predetermined cross-correlation level.

5. (Currently Amended) The method of claim 1, including the following steps for each intercell interferer to be included in said list:

determining a channel estimate;

determining a channelization code;

determining a scrambling code; and

forwarding the determined channel estimate, channelization code and scrambling code to a joint detection algorithm used by all interferers in said list.

6. (Currently Amended) An interference cancellation apparatus for a mobile station in a radio cell of a CDMA cellular system, ~~including~~comprising electronic circuitry configured to:

~~means for maintaining~~maintain a list of intracell interferers in the CDMA cellular system to the mobile station;

~~means for detecting~~detect intercell interferers to the mobile station based on handover-related information determined by the mobile station;

~~means for adding each~~add one or more detected intercell ~~interferer~~interferers that fulfils a ~~predetermined selection criterion~~ to said list; and

~~means for performing~~perform, based on information ~~about~~associated with the interferers in said list, interference cancellation for all interferers in said list.

7. Canceled.

8. (Currently Amended) The apparatus of claim 6, ~~including~~wherein the electronic circuitry is configured to:

~~means for received~~ receive interfering signal power from intercell interferers using the same frequency band as the mobile station; and

~~means for adding~~ add to said list only intercell interferers having a measured received interfering signal power that exceeds a predetermined power level.

9. (Currently Amended) The apparatus of claim 6, ~~including the steps of~~ wherein the electronic circuitry is configured to:

~~means for determining~~ determine the cross-correlation between a desired signal and signals from intercell interferers; and

~~means for adding~~ add to said list only intercell interferers having a determined cross-correlation that exceeds a predetermined cross-correlation level.

10. (Currently Amended) The apparatus of claim 6, ~~including the following steps wherein~~ for each intercell interferer to be included in said list, the electronic circuitry is configured to:

~~determining~~ determine a channel estimate;

~~determining~~ determine a channelization code;

~~determining~~ determine a scrambling code; and

~~forwarding~~ forward the determined channel estimate, channelization code, and scrambling code to a joint detection algorithm used by all interferers in said list.

11. (Currently Amended) A mobile station for a CDMA cellular system, ~~including~~ comprising:

means for maintaining a list of intracell interferers in the CDMA cellular system to the mobile station;

means for detecting intercell interferers to the mobile station based on handover-related information determined by the mobile station;

means for adding ~~each one or more~~ detected intercell ~~interferer~~ interferers that fulfils a ~~pre-determined selection criterion~~ to said list; and

means for performing, based on information ~~about~~ associated with the interferers in said list, interference cancellation for all interferers in said list.

12. Canceled.

13. (Currently Amended) The mobile station of claim 10, including:

means for measuring received interfering signal power from intercell interferers using the same frequency band as the mobile station; and

means for adding to said list only intercell interferers having a measured received interfering signal power that exceeds a predetermined power level.

14. (Currently Amended) The mobile station of claim 10, including ~~the steps of:~~

means for determining the cross-correlation between a desired signal and signals from intercell interferers; and

means for adding to said list only intercell interferers having a determined cross-correlation that exceeds a predetermined cross-correlation level.

15. (Currently Amended) The mobile station of claim 10, including ~~the following steps~~ for each intercell interferer to be included in said list:

means for determining a channel estimate;

means for determining a channelization code;

means for determining a scrambling code; and

means for forwarding the determined channel estimate, channelization code and scrambling code to a joint detection algorithm used by all interferers in said list.